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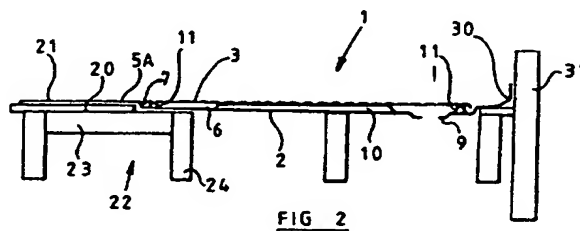
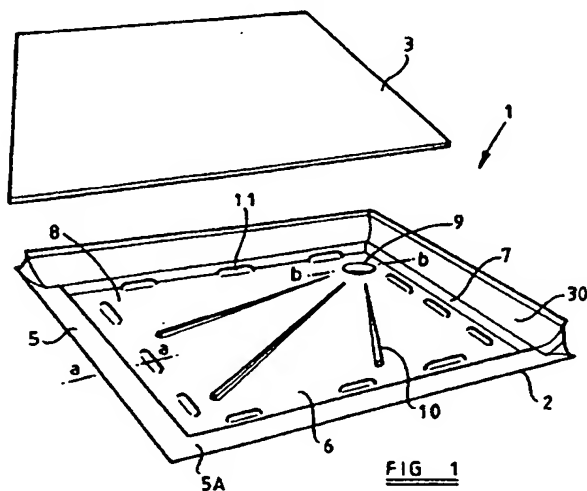
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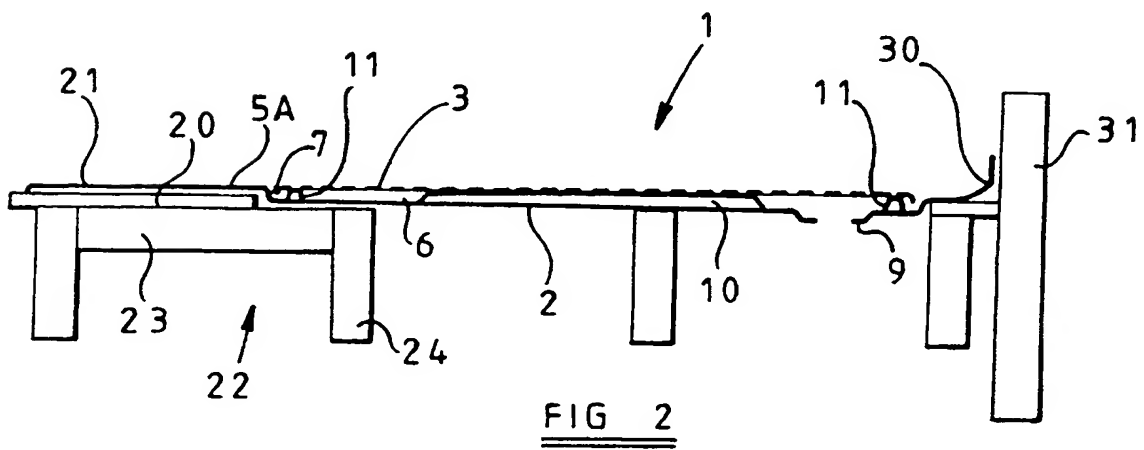
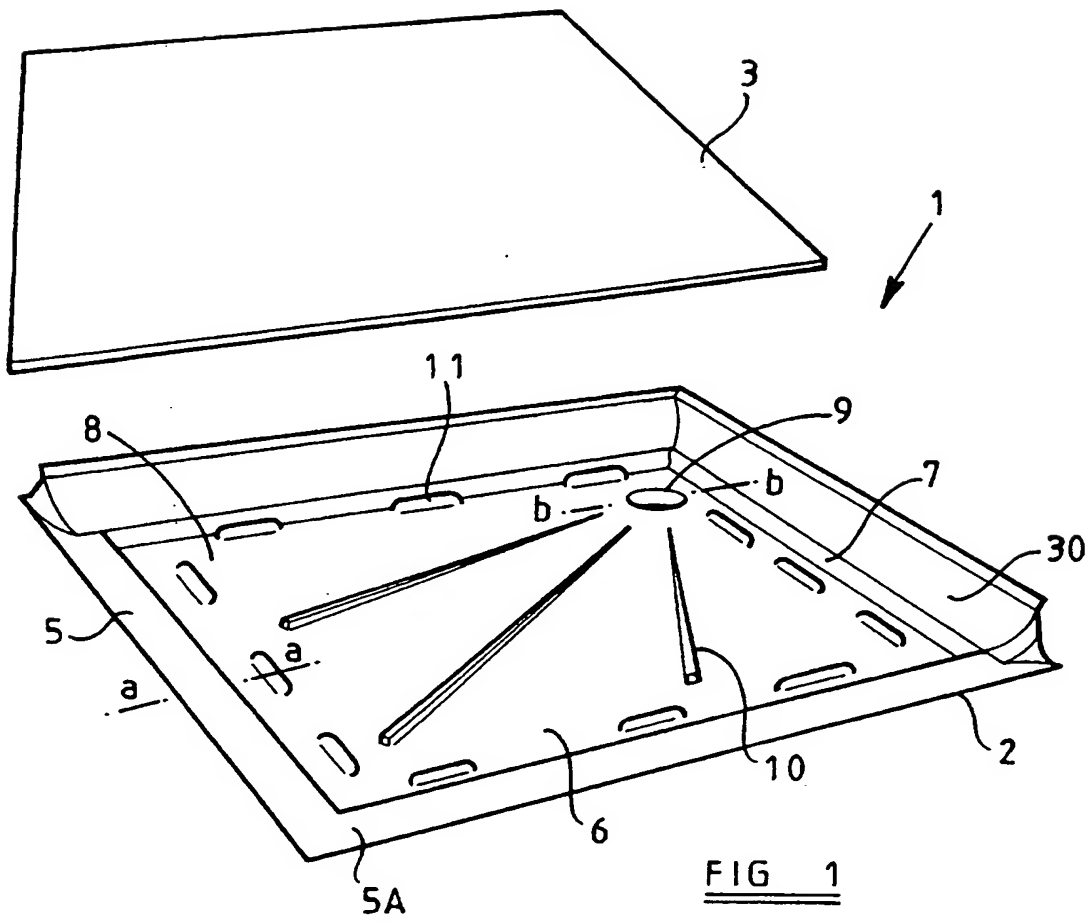
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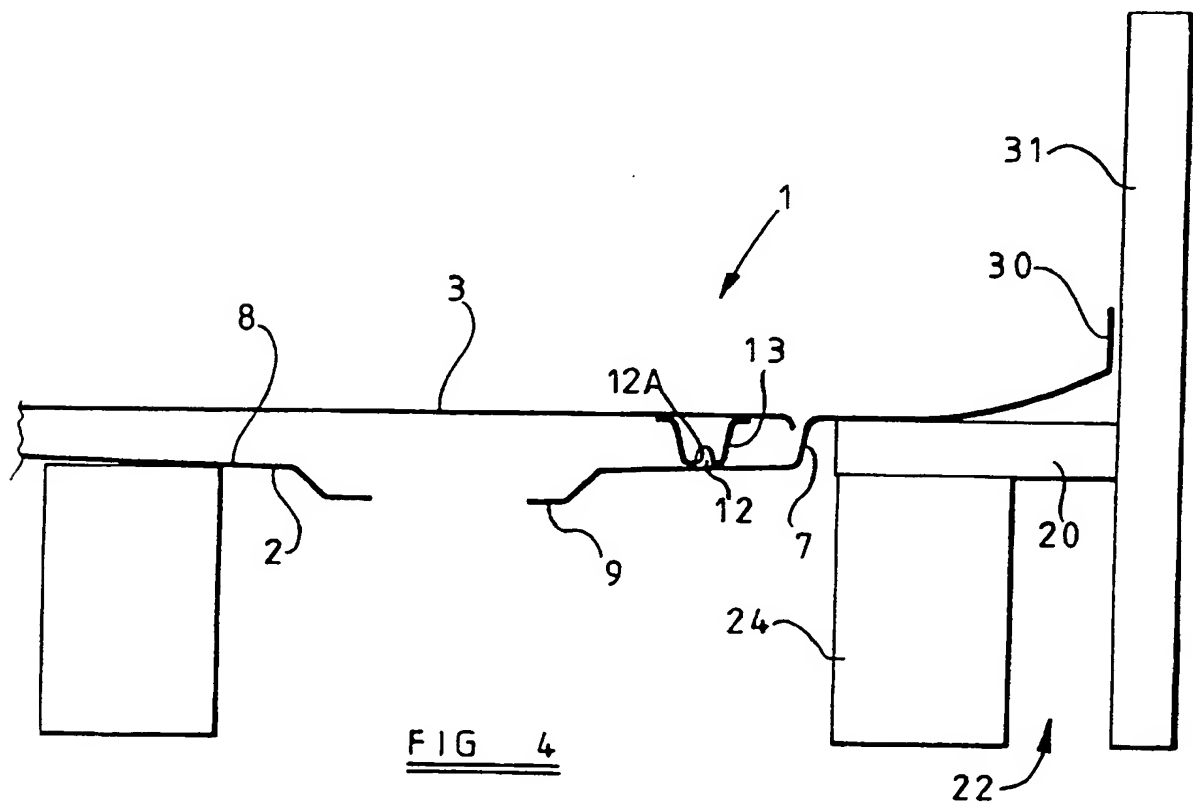
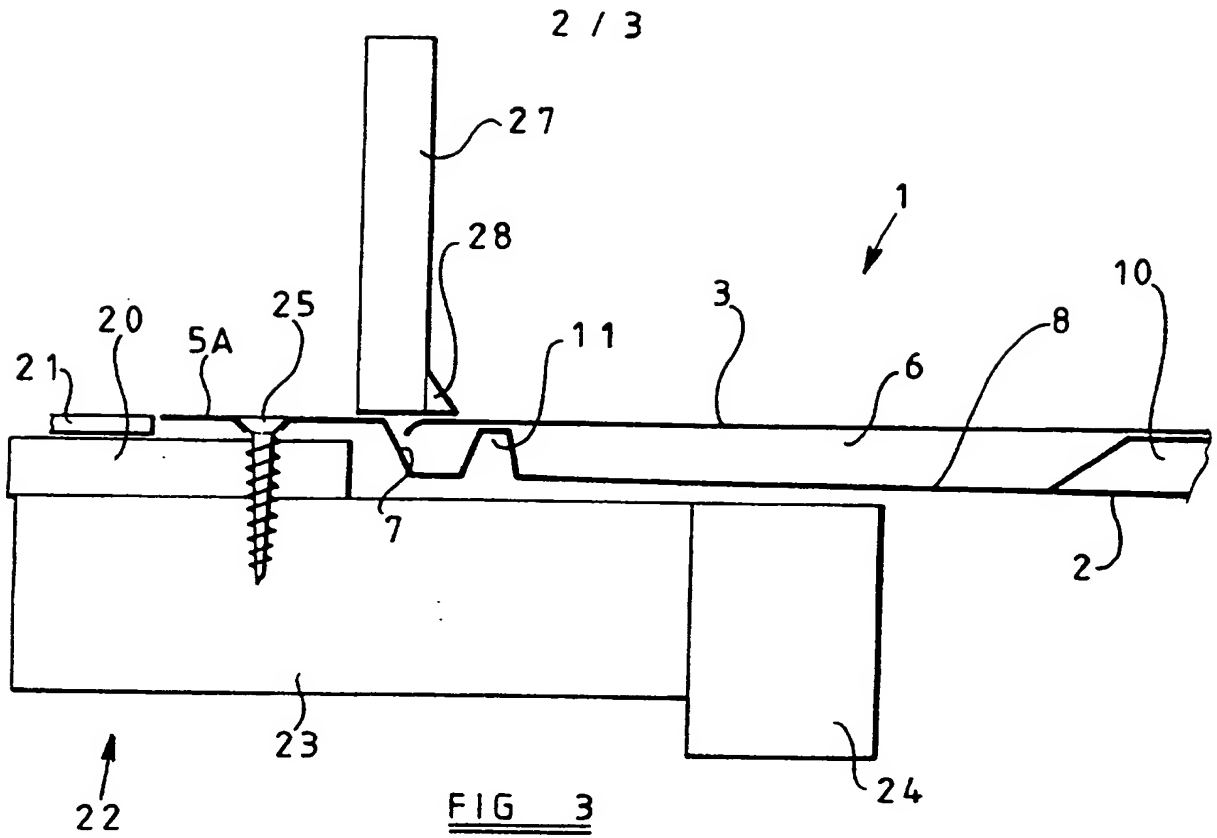
(54) Shower tray

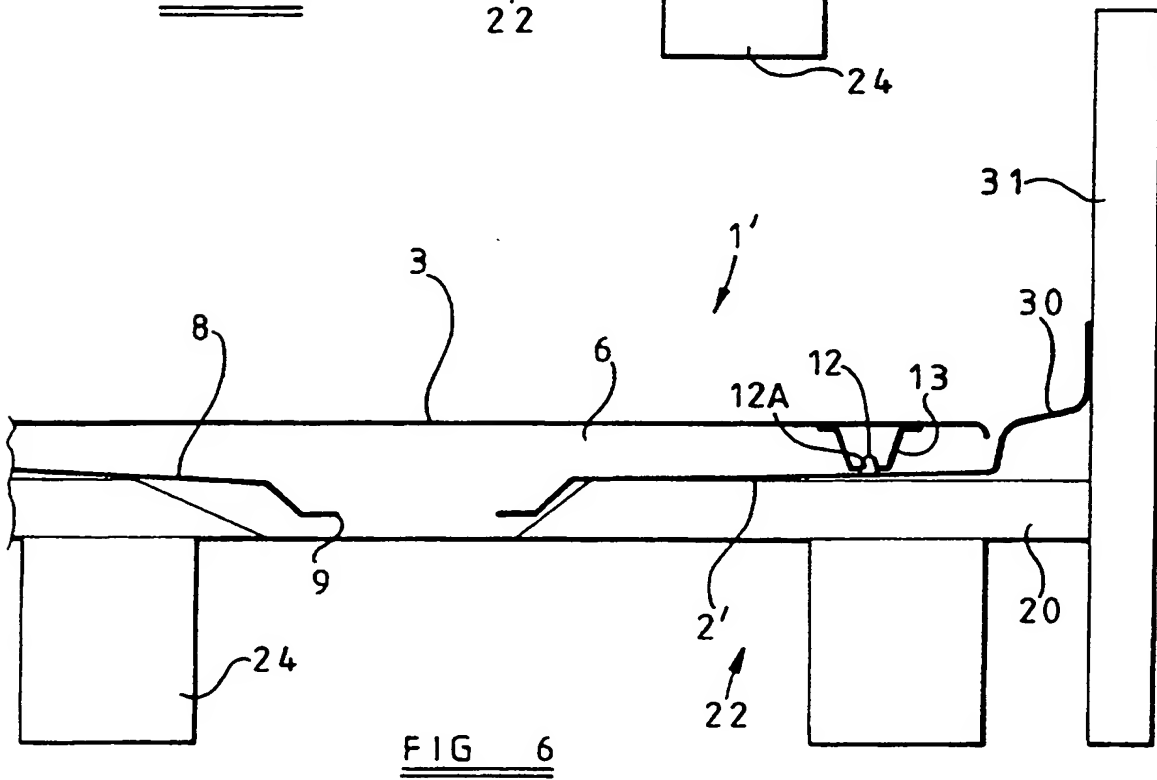
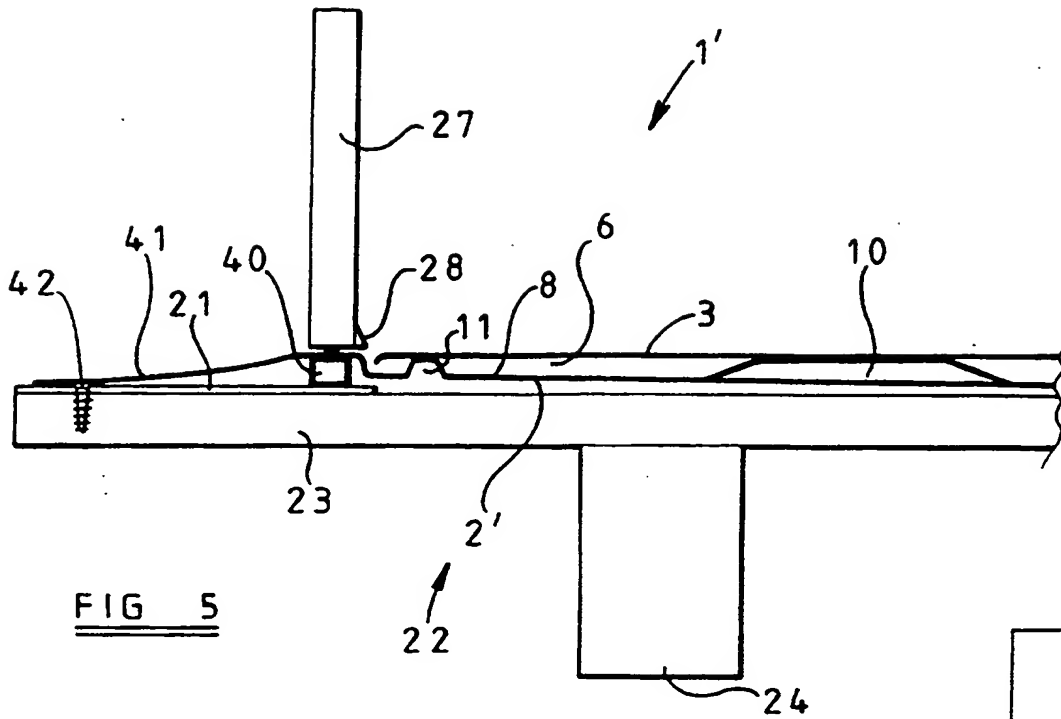
(57) A shower tray comprises a base unit 2 having a dished upper portion 5 and a waste water outlet 9 towards which water falling on the upper portion is conducted, and a removable cover plate 3 on which a person is to be supported during showering, the cover plate being removably supported above the base unit in such a manner that a gap is left between the outer periphery of the cover plate and an edge portion of the base unit so that water falling on the cover plate is conducted through the gap on to the upper portion of the base unit from where it is conducted towards the outlet.



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"Shower Trays"

This invention relates to shower trays, and is concerned more particularly, but not exclusively, with shower trays for use by physically handicapped persons.

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Special shower trays are produced enabling a handicapped person to take a shower while sitting in a wheelchair. Such shower trays are generally provided with an integral ramp enabling the person within the wheelchair to be wheeled from floor level up to the raised level of the surface of the shower tray on which the wheelchair stands during showering. Furthermore such a shower tray has a slightly raised edge in order to prevent spillage of water from the shower tray during showering. However the effort required to push a wheelchair up the ramp or to subsequently remove the wheelchair from the shower tray by lifting it over the raised edge of the shower tray can make it difficult or impossible for some persons to use such a shower tray.

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It has previously been proposed to provide a shower tray for handicapped persons such that the surface on which the wheelchair stands during showering is substantially level with the adjacent floor surface. Such an arrangement eliminates the previously described difficulties associated with introducing a wheelchair onto the shower tray and subsequently removing it therefrom. However the support surface of such a shower tray on which the wheelchair stands during showering is formed by a number of fixed T-section beams arranged to allow water to pass between them towards the water outlet, and such an arrangement makes it difficult to clean the

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shower tray thoroughly after use in such a way as to avoid build up of dirt and unpleasant smells. Also, in order to accommodate the shower tray within raised flooring, it is necessary to cut away portions of the supporting noggins and joists which can weaken the structure of the flooring.

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It is an object of the invention to provide an improved shower tray which is of particular utility to handicapped persons.

According to the present invention there is provided a shower tray
10 comprising a base unit having a dished upper portion and a waste water outlet towards which water falling on the upper portion is conducted, and a removable cover plate on which a person is to be supported during showering, the cover plate being removably supported above the base unit in such a manner that a gap is left between the outer periphery of the cover plate and an edge portion of the base unit so that
15 water falling on the cover plate is conducted through the gap on to the upper portion of the base unit from where it is conducted towards the outlet.

Such a shower tray is particularly convenient in use in that, after showering, the cover plate can be removed to enable the whole of the recessed part
20 of the upper portion of the base unit to be cleaned, and to enable any trapped matter to be removed from the vicinity of the outlet. Furthermore, if the cover plate is positioned substantially flush with the surrounding floor surface or only slightly above it, the introduction of a wheelchair onto the cover plate, and the subsequent removal of the wheelchair from the cover plate, presents no particular problems.

Advantageously a major portion of the shower tray abutting at least one edge of the shower tray has an upper surface and a lower surface which are spaced apart by a distance in the range of 15 to 25 mm, and most preferably in the range of 18 to 22 mm. If required this enables at least the major portion of shower tray to be fitted substantially within the thickness of a standard floorboard so that it may be installed in place of floorboards in an area of suspended flooring and may be supported from below by the floor noggins and joists without having to cut into the noggins and joists in such a manner as to weaken them.

Furthermore the cover plate is advantageously supported so as to lie flush with upper surface of the shower tray. Where the shower tray is intended to be installed with its upper surface substantially level with the upper surface of the flooring, this enables a wheelchair to be introduced onto the cover plate without having to surmount a step or ramp. Furthermore, whether the shower tray is installed within or above the flooring, the wheelchair may be removed from the cover without having to ride over a raised edge of the shower tray.

Where the shower tray is to be installed within the flooring, the edge portion of the base unit may be provided with a lip intended to lie substantially flush with the cover plate and to overlie an edge region of adjacent flooring.

Where the shower tray is to be installed above the flooring, the edge portion of the base unit may be provided with a ramp extending from the level of the upper surface of the flooring to the level of the cover plate.

In a preferred embodiment of the invention the cover plate is provided with locating parts for engaging with projections on the upper portion of the base unit for locating the cover plate above the upper portion such that a gap is left for passage of water around the whole of the outer periphery of the cover plate. The locating parts
5 may be provided with apertures for receiving the projections therein.

The cover plate is preferably supported above the upper portion of the base unit by a plurality of lands which are distributed around the periphery of the upper portion with gaps therebetween for passage of water below the cover plate towards
10 the outlet and which may be attached to the upper portion so as to engage the cover plate from below.

Furthermore the upper portion of the base unit may have a recess having inwardly sloping sides and a bottom through which the outlet extends.
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In addition the upper portion of the base unit may be formed with raised ribs for supporting the cover plate from below and extending along lines radiating outwardly from the vicinity of the outlet so as to provide passages for flow of water between the ribs towards the outlet.
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Conveniently the base unit is provided with a raised portion along at least one edge for engaging a side wall.

In order that the invention may be more fully understood, preferred

embodiments of shower tray in accordance with the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a first embodiment in a disassembled state;

5 Figure 2 is a vertical section through the first embodiment when installed within suspended flooring;

 Figures 3 and 4 are enlarged sections through the first embodiment taken along the lines a - a and b - b in Figure 1; and

 Figures 5 and 6 are similar enlarged sections through a second embodiment
10 for surface mounting.

A first embodiment of shower tray for mounting flush within a suspended floor will first be described with reference to Figures 1 to 4.

15 As shown in Figure 1 the shower tray 1 comprises a base unit 2 and a cover plate 3 made respectively from 1.5 mm and 2.0 mm stainless steel plate. The base unit 2 has a dished upper portion 5 having a substantially square recess 6 surrounded by an edge portion 5A, the recess 6 having four inwardly sloping sides 7 and a bottom 8 which is gently inclined in two directions towards a waste water
20 outlet 9. The bottom 8 of the recess 6 is formed with raised ribs 10 pressed up from below for supporting the cover plate 3 and orientated towards the outlet 9 along the directions in which the bottom 8 is inclined downwardly so as to conduct water falling on the bottom 8 towards the outlet 9.

As best seen in the sectional details along the lines a - a and b - b shown in Figures 3 and 4, the cover plate 3 has turned-down edges and is supported within the recess 6 by means of raised lands 11 pressed up from below and spaced around the peripheral region of the bottom 8 so as to provide large gaps for the flow of water under the cover plate 3 towards the outlet 9. Furthermore 6mm stainless steel tapered studs 12 welded to the bottom 8 of the recess 6 are provided in the vicinity of at least the four corners of the recess. The studs 12 engage within receiving apertures 12A in stainless steel cup-shaped members 3 welded to the underside of the cover plate 3, in such a manner that the upper surface of the cover plate 3 is substantially flush with the edge portion 5A and a gap of about 8 mm is left between the outer periphery of the cover plate 3 and the whole of the surrounding edge portion 5A so that water falling on the cover plate 3 is conducted through the gap onto the bottom 8 of the recess 6 and towards the outlet 9.

The fall from the highest point to the lowest point of the bottom 8 of the recess 6 is typically about 9 mm, and additionally the cover plate 3 is slightly domed, typically so that it is higher by about 6mm at its centre than at its periphery, so as to ensure that water runs freely off the cover plate 3 into the recess 6 and towards the outlet 9. During production of the cover plate 3 from a substantially square sheet of stainless steel, the corners of the sheet are turned down by about 3 mm, the overall dimensions of the cover plate 3 being such as to leave a gap of about 8 mm around the whole of the outer periphery of the cover plate 3 between the cover plate 3 and the surrounding edge portion 5A of the base unit 2. Furthermore the upper portion of the cover plate 3 is pierced with laser-cut x-shapes (not shown) to provide an anti-

slip surface, as well as being provided with a brushed finish to enhance its appearance. It will be appreciated that the cover plate 3 can be lifted out of the recess 6 to enable cleaning of the bottom 8 and the outlet 9.

5 As best seen in the overall sectional view of Figure 2 the depth of the shower tray 1 is sufficient to enable it to be installed within the depth of floorboards 20 and any floor covering 21 of suspended flooring 22 without the need for cutting away of the noggins 23 or joists 24 of the flooring 22 in such a manner as to weaken the flooring. Conveniently the major portion of the base unit 2 of the shower tray 1
10 has a depth of 18-20 mm and is supported on the tops of joists 24 and noggins 23 such that the edge portion 5A of the base unit 2 forms a lip along two sides which overlaps the adjacent floor boards 20 and is secured in position by screws 25 extending through countersunk holes in the edge portion 5A as shown in Figure 3.

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As is also shown in Figure 3 the edge portion 5A of the base unit 2 lies substantially flush with the cover plate 3 and the surrounding floor covering 21, so as to provide a smooth entry to the shower tray 1 for wheelchairs. Because no ramp is provided in this embodiment little effort is required to introduce a person on a
20 wheelchair into the showering area or to subsequently remove the wheelchair from the showering area.

Half height shower doors 27 provided with plastic weather bars 28 may be provided along the two sides in order to prevent water from splashing outside the

showering area when the shower is in use whilst providing ease of access for a wheelchair when the doors are opened. Furthermore the base unit 2 has a raised portion 30 extending along two sides for engaging adjacent walls 31.

5 Figures 5 and 6 show a second embodiment of shower tray 1' which differs from the first embodiment in that it is designed to be surface mounted on a solid floor or over suspended flooring 22 (as shown in Figures 5 and 6). Since the construction of the shower tray 1' is similar in many respects to the construction of the shower tray 1 shown in Figures 1 to 4, the same reference numerals as are used above denote
10 like parts in Figures 5 and 6, and the following description of the second embodiment will be confined to features of difference between the two embodiments.

 Referring to Figures 5 and 6, which show sectional details through the two ends of the tray 1', the base unit 2' is made from 1.5mm stainless steel plate and has
15 a recess 6 within which a cover plate is removably supported in the manner already described with reference to the first embodiment. However, in this case, the base unit 2' is designed to be supported on the upper surface of the flooring 22 without the necessity to remove any part of the flooring 22 other than to provide an aperture for the waste water outlet 9, and accordingly the base unit 2' is provided with a box-
20 section support member 40 extending along two sides of the base unit 2' so as to support the bottom 8 of the recess 6 along the two sides at a sufficient height to provide the required fall from the highest point to the lowest point of the bottom 8 to conduct water falling on the bottom 8 towards the outlet 9. The support member 40 is shown in Figure 5 resting on a floor covering 21 above the flooring 22.

Furthermore the base unit 2' is provided along one of the two sides with a specially radiused ramp 41 which is secured to the flooring 22 by screws 42 and which enables a wheelchair to be introduced into the showering area. The entry ramp 41 has a radius greater than the radius of a typical wheel provided at the front of a wheelchair
5 in order to avoid jarring contact when the wheelchair is pushed onto the ramp 41. Since the cover plate 3 is only slightly raised above the level of the floor covering 21 little effort is required to introduce a person on a wheelchair into the showering area.

CLAIMS

1. A shower tray comprising a base unit having a dished upper portion and a waste water outlet towards which water falling on the upper portion is conducted, and
5 a removable cover plate on which a person is to be supported during showering, the cover plate being removably supported above the base unit in such a manner that a gap is left between the outer periphery of the cover plate and an edge portion of the base unit so that water falling on the cover plate is conducted through the gap on to the upper portion of the base unit from where it is conducted towards the outlet.
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2. A shower tray as claimed in Claim 1, wherein a major portion of the shower tray abutting at least one edge of the shower tray has an upper surface and a lower surface which are spaced apart by a distance in the range of 15 mm - 25 mm.
- 15 3. A shower tray as claimed in Claim 2, wherein the upper and lower surfaces of said major portion of the shower tray are spaced apart by a distance in the range of 18 mm - 22 mm.
4. A shower tray as claimed in any one of the preceding claims, wherein the
20 cover plate is supported so as to lie flush with the upper surface of the shower tray.
5. A shower tray as claimed in any one of the preceding claims, wherein the shower tray is intended to be installed within the flooring and the edge portion of the base unit is provided with a lip intended to lie substantially flush with the cover plate

and to overlie an edge region of adjacent flooring.

6. A shower tray as claimed in any one of claims 1 - 4, wherein the shower tray is intended to be installed above the flooring and the edge portion of the base unit
5 is provided with a ramp extending from the level of the upper surface of the flooring to the level of the cover plate.

7. A shower tray as claimed in any one of the preceding claims, wherein the cover plate is provided with locating parts for engaging with projections on the upper
10 portion of the base unit for locating the cover plate above the upper portion such that a gap is left for passage of water around the whole of the outer periphery of the cover plate.

8. A shower tray as claimed in any one of the preceding claims, wherein the
15 cover plate is supported above the upper portion of the base unit by a plurality of lands which are distributed around the periphery of the upper portion with gaps therebetween for passage of water below the cover plate towards the outlet and which may be attached to the upper portion so as to engage the cover plate from below.

20 9. A shower tray as claimed in any one of the preceding claims, wherein the upper portion of the base unit has a recess having inwardly sloping sides and a bottom through which the outlet extends.

10. A shower tray as claimed in any one of the preceding claims, wherein the

upper portion of the base unit is formed with raised ribs for supporting the cover plate from below and extending along lines radiating outwardly from the vicinity of the outlet so as to provide passages for flow of water between the ribs towards the outlet.

5 11. A shower tray as claimed in any one of the preceding claims, wherein the base unit is provided with a raised portion along at least one edge for engaging a side wall.

10 12. A shower tray substantially as hereinbefore described with reference to the accompanying drawings.